

**Commonwealth of Kentucky**  
**Division for Air Quality**  
***PERMIT STATEMENT OF BASIS***

Title V Draft Permit No. V-99-008

General Electric Company

Lexington, Kentucky

July 26, 1999

Shafiq S. Amawi

Plant ID#: 102-1160-0033

Application Log #: F393

**SOURCE DESCRIPTION:**

This plant manufactures glass bulbs from ceramic raw materials. Raw materials are received in bulk and smaller containers, and stored in silos and bins. The raw materials are mixed in proper proportions and melted in high temperature furnaces to produce glass. Scrap glass is also added to the process and the molten glass is refined by removal of trapped gases. The glass is passed via forehearths from the melter/refiner to ribbon machines equipment where bulbs are formed. A fraction of the bulbs undergo a frosting process where the inside is frosted using an acid-etch process. The finished bulbs are warehoused and shipped to customers.

More detailed information about the different processes involved in the manufacture is provided in the descriptions which follow.

**A2 ( BM-1B) Bulk raw material unloading bucket elevator**

**Description:** This emission unit is comprised of the equipment and activities involved in the unloading and conveying to storage of bulk raw materials (including external cullet), received at the facility. This material is subsequently used to produce glass in the furnace at the plant. The emissions are vented to a Flexclean baghouse.

Date commenced: Before 1975.

**APPLICABLE REGULATIONS:**

401 KAR 61:020, Section 3(1)(a), Existing process operations applicable to each emission unit which commenced construction before July 2, 1975.

**A3 ( BM-1C) Bulk raw material shuttle conveyer room**

**Description:** This emission unit is comprised of the equipment and activities involved in the unloading and conveying to storage of bulk raw materials (including external cullet), received at the facility. This material is subsequently used to produce glass in the furnace at the plant. The emissions are vented to a Flexclean baghouse.

Date commenced: Before 1975.

**APPLICABLE REGULATIONS:**

401 KAR 61:020, Section 3(1)(a), Existing process operations applicable to each emission unit which commenced construction before July 2, 1975.

**A5 (BM-2B) Feldspar silo.**

**Description:** This emission unit is comprised of the equipment and activities involved in storage of bulk raw materials at the facility. This silo is used to store Feldspar. The emissions are vented to Flexclean baghouse.

Date commenced: After 1975.

**APPLICABLE REGULATIONS:**

401 KAR 59:010, Section 3(1)(a), New process operations applicable to each emission unit which commenced construction on or after July 2, 1975.

**A6 ( BM-2C) Sand silo.**

**Description:** This emission unit is comprised of the equipment and activities involved in storage of bulk raw materials at the facility. This silo is used to store sand. The emissions are vented to Flexclean baghouse.

Date commenced: After 1975.

**APPLICABLE REGULATIONS:**

401 KAR 59:010, Section 3(1)(a), New process operations applicable to each emission unit which commenced construction on or after July 2, 1975.

**A7 ( BM-2A) Cullet silo.**

**Description:** This emission unit is comprised of the equipment and activities involved in storage of bulk raw materials at the facility. This silo is used to store cullet. The emissions are vented to Flexclean baghouse.

Date commenced: After 1975.

**APPLICABLE REGULATIONS:**

401 KAR 59:010, Section 3(1)(a), New process operations applicable to each emission unit which commenced construction on or after July 2, 1975.

**A8 ( BM-2E and 2F) Soda ash silos.**

**Description:** This emission unit is comprised of the equipment and activities involved in storage of bulk raw materials at the facility. The two silos are used to store soda ash. The emissions are vented to Flexclean baghouse.

Date commenced: After 1975.

**APPLICABLE REGULATIONS:**

401 KAR 59:010, Section 3(1)(a), New process operations applicable to each emission unit which commenced construction on or after July 2, 1975.

**A9 ( BM-2D) Dolomite split silo.**

**Description:** This emission unit is comprised of the equipment and activities involved in storage of bulk raw materials at the facility. This silo is used to store Dolomite. The emissions are vented to Flexclean baghouse.

Date commenced: After 1975.

**APPLICABLE REGULATIONS:**

401 KAR 59:010, Section 3(1)(a), New process operations applicable to each emission unit which commenced construction on or after July 2, 1975.

**A10 ( BM-4L) Mixed batch surge bin.**

**Description:** This emission unit is comprised of equipment and activities to produce blended batch material from raw material and cullet. The emissions are vented to a mix-house dust collector.

Date commenced: Before 1975.

**APPLICABLE REGULATIONS:**

401 KAR 61:020, Section 3(1)(a), Existing process operations applicable to each emission unit which commenced construction before July 2, 1975.

**A11 ( BM-4G2 and 4J) Batch bucket elevator and blended batch elevator.**

**Description:** This emission unit is comprised of equipment and activities to produce blended batch material from raw material and cullet. The emissions are vented to a mix-house dust collector.

Date commenced: After 1975.

**APPLICABLE REGULATIONS:**

401 KAR 59:010, Section 3(1)(a), New process operations applicable to each emission unit which commenced construction on or after July 2, 1975.

**A12 ( BM-4G1, 4M, 4N1 and 4N2) Gathering belt conveyer, vibratory feeder and blending belt conveyer.**

**Description:** This emission unit is comprised of equipment and activities to produce blended batch material from raw material and cullet. The emissions are vented to a mix-house dust collector.

Date commenced: After 1975.

**APPLICABLE REGULATIONS:**

401 KAR 59:010, Section 3(1)(a), New process operations applicable to each emission unit which commenced construction on or after July 2, 1975.

**A13 ( BM-4F, 4G3 and 4K) Raw material weigh scales, check weigh scale, mixed batch scale and cullet scale.**

**Description:** This emission unit is comprised of equipments and activities involved in bulk storage. Bulk materials and minor materials are transferred from storage silos and bins to weigh scales onto a gathering belt conveyer. After the weight of these ingredients is rechecked, they are delivered through a hopper to a mixer. The emissions are vented to a mix-house dust collector.  
Date commenced: After 1975.

**APPLICABLE REGULATIONS:**

401 KAR 59:010, Section 3(1)(a), New process operations applicable to each emission unit which commenced construction on or after July 2, 1975.

**A14 (BM-4H) Batch hopper and mixer.**

**Description:** This emission unit is comprised of equipment and activities to produce blended batch material from raw material and cullet. After the ingredients are weighed, they are delivered through a hopper to a mixer. The emissions are vented to a mix-house dust collector.  
Date commenced: After 1975.

**APPLICABLE REGULATIONS:**

401 KAR 59:010, Section 3(1)(a), New process operations applicable to each emission unit which commenced construction on or after July 2, 1975.

**A15 (-) Feldspar weighing vibratory feeder & screw conveyer (BM-4A1).**

**Description:** This emission unit is comprised of equipment to produce blended batch material. The emissions are vented to a mix-house dust collector (BG-2).  
Date commenced: After 1975.

**APPLICABLE REGULATIONS:**

401 KAR 59:010, Section 3(1)(a), New process operations applicable to each emission unit which commenced construction on or after July 2, 1975.

**A16 (-) Sand weighing-conveying (BM-4B).**

**Description:** This emission unit is comprised of equipment to produce blended batch material. The emissions are vented to a mix-house dust collector (BG-2).  
Date commenced: After 1975.

**APPLICABLE REGULATIONS:**

401 KAR 59:010, Section 3(1)(a), New process operations applicable to each emission unit which commenced construction on or after July 2, 1975.

**A17 (-) Dolomite weighing-conveying (BM-4C).**

**Description:** This emission unit is comprised of equipment to produce blended batch material. The emissions are vented to a mix-house dust collector (BG-2).  
Date commenced: After 1975.

**APPLICABLE REGULATIONS:**

401 KAR 59:010, Section 3(1)(a), New process operations applicable to each emission unit which commenced construction on or after July 2, 1975.

**A18 (-) Soda ash weighing-conveying (BM-4D).**

**Description:** This emission unit is comprised of equipment to produce blended batch material. The emissions are vented to a mix-house dust collector (BG-2).  
Date commenced: After 1975.

**APPLICABLE REGULATIONS:**

401 KAR 59:010, Section 3(1)(a), New process operations applicable to each emission unit which commenced construction on or after July 2, 1975.

**A19 ( BM-5D) Cross cullet conveyer, cullet vibratory feeder to blended batch elevator.**

**Description:** This emission unit is comprised of the equipment and activities involved in the bulk storage (excluding main cullet silo) and transfer of external and internal cullet within the plant. The emissions are vented to a mix-house dust collector.  
Date commenced: After 1975.

**APPLICABLE REGULATIONS:**

401 KAR 59:010, Section 3(1)(a), New process operations applicable to each emission unit which commenced construction on or after July 2, 1975.

**13 ( BM-6) Furnace charge bins.**

**Description:** This emission unit is comprised of the equipment and activities involved in storage of blended materials at the facility. After the mixed ingredients are transferred to the blending system which also receives cullet from the cullet handling emission units, the mixed raw materials and cullet are blended to produce blended batch, which is delivered to the furnace charge bins. The emissions are vented to Flexclean baghouse.  
Date commenced: Before 1975.

**APPLICABLE REGULATIONS:**

401 KAR 61:020, Section 3(1)(a), Existing process operations applicable to each emission unit which commenced construction before July 2, 1975.

## **COMMENTS:**

All the above emission units fall under materials handling. The calculations were performed by General Electric and the Division agrees with the methodology. Below is a description of how the emissions from the materials handling portion of the plant were determined.

U.S.EPA in its document, "Source Assessment: Pressed and Blown Glass Manufacturing Plants" (EPA 600/2-77-005, January 1977), presented the following emission factors, each with a reliability rating of "B", which provides a high degree of confidence:

Handling (unloading, conveying)	=	3 lbs/ton
Glass crushing	=	negligible
Storage bins	=	0.2 lbs/ton
Mixing and weighing	=	0.62 lbs/ton
Batch charging	=	negligible

These emission factors are overall emission factors for the associated activity (i.e., material handling factor is for all the conveyers and elevators). Furthermore, these emission factors are worst-case factors, which we assumed to be uncontrolled, fugitive particulate emissions. All the emissions from the material handling portion of the plant are controlled via a flexclean baghouse or a mix house dust collector. However, emission unit A1 (00), Bulk raw material unloading pit are uncontrolled.

It is important to note that General Electric Company submitted a construction permit application in April, 1987, to lower the total source particulate allowable emissions rates such that the source would not be classified a major source for PM as defined by the PSD regulations. Construction permit C-87-077 was issued on June 2, 1987. The request to lower the total source particulate emissions was to avoid a PSD review, when GE submitted their next construction permit application on August 25, 1987. The latest application was to modify the existing glass furnace and to add a third forming line. Therefore, all the emission allowables that were specified for the material handling portion of the plant are federally enforceable and were lowered to avoid a PSD review.

### **11 ( F1) The glass melter and refiner.**

**Description:** This emission unit includes the furnace melter and the refiner. The furnace melter receives material from the charge bins. At high temperatures, the material melts to form molten glass. The molten glass passes into the refiner section, where its temperature is lowered and it is refined (trapped gases may be released). This is a natural gas fired furnace with a maximum glass pull rate of 440 tons per day and a rated burner capacity of 75 MCF per hour. The emissions are vented to an electrostatic precipitator.

Date commenced: July 1978.

### **Applicable Regulations:**

40 CFR §60 Subpart CC/§60.290 to §60.296 (401 KAR 59:585), Standards of Performance for Glass Manufacturing Plants.

## **COMMENTS:**

Emission factors for emissions of regulated pollutants from the furnace were determined from a combination of stack test results and U.S.EPA AP-42. The particulate emissions are controlled via an electrostatic precipitator. The NO<sub>x</sub> emissions were limited to 548.77 tons/year, calculated as a 12 month rolling average. All the NO<sub>x</sub> emissions shall be calculated, reported and otherwise used as NO<sub>2</sub>. The limit was self imposed to preclude applicability of 40 CFR §52.21 (401 KAR 51:017), Prevention of Significant Deterioration. The furnace is subject to 40 CFR §60 Subpart CC/§60.290 to §60.296 (401 KAR 59:585), Standards of Performance for Glass Manufacturing Plants. Previous compliance testing showed compliance with the allowable. GE will be requested to conduct an annual stack test to show compliance with both NO<sub>x</sub> and PM allowables.

### **14 ( RB1) Line # 1 Ribbon Machine.**

**Description:** The Ribbon machine uses glass drawn from the forehearth. The bulbs that are formed on the ribbon machine are discharged onto a conveyor and sent to the lehr. The emissions are vented to a hydrostatic precipitator.

Date commenced: Before 1975.

### **APPLICABLE REGULATIONS:**

401 KAR 61:020, Section 3(1)(a), Existing process operations applicable to each emission unit which commenced construction before July 2, 1975.

### **21 ( RB2) Line # 2 Ribbon Machine.**

**Description:** The Ribbon machine uses glass drawn from the forehearth. The bulbs that are formed on the ribbon machine are discharged onto a conveyor and sent to the lehr. The emissions are vented to a hydrostatic precipitator.

Date commenced: Before 1975.

### **APPLICABLE REGULATIONS:**

401 KAR 61:020, Section 3(1)(a), Existing process operations applicable to each emission unit which commenced construction before July 2, 1975.

### **38 ( RB3) Line # 3 Ribbon Machine.**

**Description:** The Ribbon machine uses glass drawn from the forehearth. The bulbs that are formed on the ribbon machine are discharged onto a conveyor and sent to the lehr. The emissions are vented to a hydrostatic precipitator.

Date commenced: Before 1987.

### **APPLICABLE REGULATIONS:**

401 KAR 59:010, Section 3(1)(a), New process operations applicable to each emission unit which commenced construction on or after July 2, 1975.

## **COMMENTS:**

Particulate emissions from all three bulb forming lines are controlled by hydrostatic precipitators (cyclones) each having a rated design efficiency of 80%. Emission factors were provided by GE. Note that all three forming lines have self imposed PM allowables to preclude the applicability of Regulation 51:017, Prevention of Significant Deterioration of Air Quality.

### **37 ( F4) Line # 3 Forehearth.**

**Description:** Molten and refined glass from the melter passes through Forehearts and bowls before being drawn to the Ribbon Machines. It is natural gas fired with a burner rated capacity of 0.00365 MMCF per hour.  
Date commenced: 1987.

**Applicable Regulations:** None

## **COMMENTS:**

Emissions from line # 3 forehearth result from the combustion of natural gas. The emission factors were obtained from AP-42. Since this third line was added as part of the project to increase the pull rate of the glass furnace, the NO<sub>x</sub> emissions were limited to preclude the applicability of Regulation 51:017, Prevention of Significant Deterioration of Air Quality.

### **40 ( L3) Line # 3 Lehr.**

**Description:** The Lehr is connected to the downstream end of the ribbon machine. It employs natural gas fired burners to maintain the appropriate temperature for stress relief in the bulbs. The burner's rated capacity is 0.00365 MMCF per hour.  
Date commenced: 1987.

**Applicable Regulations:** None

## **COMMENTS:**

Emissions result from combustion of natural gas. The emission factors were obtained from AP-42. Emissions are uncontrolled.

### **35 (H8) Erie Boiler. [This is an insignificant activity]**

**Description:** A natural gas fired boiler used to produce steam at the plant. The burner rated capacity is 8 mmBtu per hour.  
Date commenced: 1951.

## **Applicable Regulations:**

Regulation 401 KAR 61:015, Existing indirect heat exchangers applicable to each affected facility which commenced construction before April 9, 1972.



### **COMMENTS:**

Emissions result from combustion of natural gas. The emission factors were obtained from AP-42. Emissions are uncontrolled.

#### **36 (H8) North American Boiler.**

**Description:** A natural gas fired boiler used to produce steam at the plant. The burner rated capacity is 11.7 mmBtu per hour.  
Date commenced: March 18,1985.

#### **Applicable Regulations:**

Regulation 401 KAR 59:015, New indirect heat exchangers.

### **COMMENTS:**

Emissions result from combustion of natural gas. The emission factors were obtained from AP-42. Emissions are uncontrolled.

#### **44 (Y25) Waste Water Treatment.**

**Description:** This operational area includes the processes involved in collecting, treating and disposing of wastewater generated from various sources at the plant including, but not limited to, the acid etching and reclaim operations, DI water rinse and containment run-off.  
Date commenced: March 18,1985.

**Applicable Regulations:** None

#### **State-Origin Applicable Regulations:**

Regulation 401 KAR 63:021, Existing sources emitting toxic air pollutants.

### **COMMENTS:**

Ammonia emissions are subject to Kentucky's toxic regulation 63:021. The ammonia emissions were above the adjusted significant level, however an ISCST model determined an allowable which is much higher than the actual emission rate.

#### **24 (CR1) Hard Chromium Electroplating, Stripping, Vapor Hone and Rinsing.**

**Description:** This emission unit includes equipment and activities used to plate chromium on tip surfaces. Electric current is used in the plating tank. The stripping process uses alkaline stripping agents to remove residual chromium plating which must be removed before replating the blow tips. The vapor hone or sand blasting process uses wet slurry to remove surface containments from the blow tips. All emissions are controlled through a wet scrubber and composite mesh pad system and  
Date commenced: After 1975.

**Applicable Regulations:**

401 KAR 59:010, Section 3(1)(a), New process operations applicable to each emission unit which commenced construction on or after July 2, 1975.

40 CFR 63, Subpart N-National emission standards for chromium emissions from hard and decorative chromium electroplating and chromium anodizing tanks.

**COMMENTS:**

To calculate actual uncontrolled chromium emissions, a U.S. EPA emission factor from AP-42 expressed in mg/amp-hr was multiplied by the current through the chrome plating tank to arrive at an hourly uncontrolled emission rate. The control efficiency of the scrubber was applied to the uncontrolled emissions to derive controlled chromium emissions. A composite mesh-pad (CMP) scrubbing system has been installed and has been demonstrated to control total chromium emissions for compliance with the applicable MACT standard.

In the stripping tank, a current is passed across a set of electrodes through a solution of caustic salts to strip a thin existing layer of chromium from the parts. Chromium compounds, which are hazardous air pollutants, are the only emissions from this source. A mg/amp-hr emission factor has been developed by U.S.EPA for chrome plating. Since this is the reverse of the chrome plating process (residual metal is dissolved off the part and into the stripping bath) and the solution in the tank contains no chromic acid other than what is dissolved from the metal part, it is estimated that the chromium that is stripped from the parts creates the potential of very low Cr emissions. Therefore, the factor from chrome plating is reduced 10 fold.

The vapor hone or sand blasting uses wet slurry to remove surface containment from the blow tips. A particulate matter allowable was determined by previous construction permit to preclude the applicability of Regulation 51:017, Prevention of significant deterioration of air quality.

**29 (AE-1) Acid Etching and Reclaim Area.**

**Description:** This emission unit includes equipment and activities used to etch the glass envelope's interior. As part of this etching process GE manufactures 60% hydrogen fluoride acid, etch acid and lyons acid. However, during a visit to the plant the permit writer was informed that lyons acid is no longer used or manufactured. Each of the acids are formulated using various amounts of the 70% hydrofluoric acid which is stored in a 15,000 gallon bulk storage tank. Batch mixing of these acids takes place in a mixing vessel called the mix can. After the acids are mixed, they get pumped to their appropriate storage tanks. The 60% HF acid is diluted to 30-45% HF in the fortifier acid settling tank. Depending upon the type of frosting to be produced, the appropriate acid is pumped to the frosting machine where it is sprayed into the interior of the envelopes. The used or spent acids are recovered in the reclaim cookers and allowed to dry in crystallization pans. The reclaimed acids are later used as a raw material in the formulation of one of the etching acids.

The affected facilities covered under this emission unit are; mix can, 70% HF storage tank, frost machine, cookers, acid storage tanks, spent lyons storage tank. These affected facilities exhaust through a common sodium hydroxide scrubber referred to as the 75 horsepower scrubber system. Before exhausting through the 75 HP scrubber system, various affected facilities exhaust through other scrubber systems, some systems have two additional scrubbers in series. For more details about the scrubbers configurations and what affected facilities they serve, please refer to the inspection report dated October 23, 1998.

Construction commenced: All these affected facilities were existing prior to 1975, however some modifications have taken place since that date.

**Applicable Regulations:**

401 KAR 59:010, Section 3(1)(a), New process operations applicable to each emission unit which commenced construction on or after July 2, 1975.

**State-origin Applicable Regulations:**

401 KAR 53:010, Ambient air quality standards.

**COMMENTS:**

The production and use of the etch acid releases particulate matter, gaseous fluoride and ammonia emissions to the atmosphere. The general approach to estimating emissions was to use emission factors expressed in lbs/hr of acid, ammonia or caustic developed in previous permit applications and stack tests. Actual hourly controlled emission rates of hydrofluoric acid were derived from an August, 1992 compliance test performed on the exhaust of the 75 HP scrubber while the equipment in the acid etching line was in operation. This emission factor applies to all equipment vented through the 75 HP scrubber. Added to the above emission estimate are potential emissions for the additional activities of filling the bulk HF tank and upper/lower settling tanks, which are based on adoption of AP-42 correlations for tanks containing VOC liquids. Hourly emission factors for ammonia from equipment vented through the 75 HP scrubber were obtained from U.S.EPA correlations for emissions from tanks. Note that the particulate emissions from the mix can are subject to 59:010, and the allowable is federally enforceable to preclude the applicability of Regulation 51:017, Prevention of significant deterioration. HF emissions are subject to 53:010. An ISCST dispersion model predicted the second highest 12 and 24 hour average concentrations to be below the AAQ standards contained in regulation 53:010, Ambient Air Quality Standards.

**PERIODIC MONITORING:**

Although most of the emission units which make up the raw material processing and handling part of the plant have particulate limits to preclude the applicability of 51:017, Prevention of significant deterioration of air quality (PSD), the actual emissions are well below the allowables. Therefore, no extensive record keeping is required. To show compliance with the opacity limits, GE is required to perform periodic opacity readings where applicable. GE is required to conduct a stack test within one year of permit issuance to show compliance with the particulate standard of 40 CFR 60, Subpart CC, Standards of performance for glass manufacturing plants. To show continuing compliance with the particulate matter limit, GE shall determine an emission factor from the compliance test in units of lbs of PM/ ton of glass produced. Then determine the monthly PM emission rate using the following equation:

Monthly PM(lbs/month) = [ Process rate (tons/month) x Emission factor determined from the compliance test (lbs/ton)]

To determine the emissions in gm of PM per Kg of glass pulled, use the following equation:

PM (gm/Kg) = [(PM lbs/month x 454 gm/lb) / Glass pulled (Kg/month)]

Moreover, during the compliance test, GE shall monitor the following parameters for the electrostatic precipitator (ESP):

- (1) Field-by-field voltage and electric current readings.
- (2) Total electric power to the ESP.

At the conclusion of the test and upon approval of its results, GE shall monitor the field-by-field voltage and electric current readings, and total electric power to the ESP once per day and ensure the daily readings fall within plus or minus 10% of the average readings that were determined during the compliance test.

The NO<sub>x</sub> emissions from the glass melter were limited by S-97-078 to 548.77 tons/yr, to preclude the applicability of PSD. GE is currently required to monitor NO<sub>x</sub> emissions using the existing NO<sub>x</sub> CEM. The NO<sub>x</sub> emissions from line # 3 forehearth and lehr were limited to 1.6 tons/yr each, to avoid the applicability of PSD. GE will show continuous compliance by keeping records of the amount of natural gas used.

The steam boilers are subject to 61:015 and 59:015, existing and new indirect heat exchangers, respectively. GE will demonstrate compliance by keeping records of the amount of natural gas used. The ammonia and HF emissions are controlled by a series of scrubbers. The permit requires GE to conduct a hydrogen fluoride compliance test on the 75 HP scrubber stack every five years to ensure compliance with the state's ambient air quality standard. Moreover, the permit requires GE to keep extensive records of the scrubbers' operating parameters to ensure continuous compliance with the permit limits. The chromium plating tank is subject to Subpart N-National emission standards for chromium emissions from hard and decorative chromium electroplating and chromium anodizing tanks. Although the chromium emissions were tested and determined to be below the allowable, the permit requires GE to conduct a chromium compliance test every five years to show continuous compliance. Furthermore, Subpart N, requires GE to conduct extensive monitoring and record keeping to show continuous compliance.

### **BACKGROUND INFORMATION ABOUT THE NO<sub>x</sub> CEM:**

In 1987, GE rebuilt its glass furnace and increased the process rate of the glass pulled. GE was issued a synthetic minor permit No. C-87-129, that limited the annual NO<sub>x</sub> emissions to avoid the applicability of Regulation 401KAR51:017, Prevention of Significant Deterioration of Air Quality. To ensure continuing compliance with the annual NO<sub>x</sub> emission rate, Permit No. C-87-129, limited the natural gas usage rate and specified a NO<sub>x</sub> emission factor.

On April 1, 1992, GE was issued a notice of violation, because the glass furnace natural gas usage had exceeded the limits that were specified in Permit No. C-87-129. As a corrective action GE tried to have the Division of Air Quality revise the NO<sub>x</sub> emission factor by providing stack test data. However, there was a lot of variability in the stack test data, and a good justification for the NO<sub>x</sub> emission factor revision was not established.

Permit No. C-87-129, was replaced by Permit S-97-078 which required the use of a continuous emission monitor (CEM) to verify compliance with the NO<sub>x</sub> annual limit in place of the natural gas usage and the NO<sub>x</sub> emission factor limits.

### **CREDIBLE EVIDENCE:**

This permit contains provisions which require that specific test methods, monitoring or record keeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has not incorporated these provisions in its air quality regulations.